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ABSTRACT

An analysis is made of the way data were treated in several studies which concluded that family incomes have increased as fast as college costs and that there is no special difficulty in paying for higher education for middle income families. Trends in tuition costs are confounded by presenting average tuition data aggregated for all types of institutions. A second consideration is that the "cost of college" shown in the studies is tuition plus room and board. Conclusions about relative rates of cost increase differ substantially depending on whether tuition or tuition plus room and board are considered. Selecting the appropriate income series to use in measuring the ability to pay for college is also important. It is better to use the income series that represents disposable incomes, or income after taxes. Analysis of the ability to pay for higher education should also consider the economic or household unit, or the size of the family with one wage earner. Another consideration is that the comparison of education cost to income is usually made on the basis of the costs for one student, but a number of families are now supporting more than one child in college at the same time. If these considerations are taken into account, the conclusion about the ability of the middle income families to pay for their children's college education as costs increase is reversed, and there is, currently, a middle income "crunch." (SW)

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IS THERE OR ISN'T THERE A MIDDLE INCOME CRUNCH?*

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Are middle income families having a harder time paying for college now than, say, five or ten years ago? A widespread difference of opinion exists on this question. On one hand, perceptions of the middle income families based on their own experiences as reported in a stream of accounts in the newspapers, magazines, and on TV seems to indicate that they feel considerable financial pressure trying to pay for their children's college education.

On the other hand, official reports from the Congressional Budget Office,[1] the Congressional Research Service,[2] outside studies by the College Entrance Examination Board,[3] and the Education Policy Research Center for Higher Education,[4] all using the same data, all argue that no such middle income crunch exists--that family incomes have gone up just about as fast as college costs so that middle income families should have no greater difficulty in paying for higher education now than in earlier years.

Experience teaches, however, that if the data do not correspond with public perceptions of economic phenomena then there is usually something wrong with the data. And careful examination of the data on which the conclusions of the CBO and other studies are based leads first, to questions about their selection and interpretation of that data, and second, to opposite conclusions.

On two counts we found that if the analysts had intended to maximize the increase over time in family incomes relative to that of college costs, and consequently to minimize the possibility of finding a middle income crunch, they would have treated the data in the particular way they did.

1. In the first place, college costs are shown for the public sector and the private sector as a whole. This, however, lumps together universities, four-year colleges, and two-year colleges for each of the sectors.

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Data readily available from exactly the same NCES source tables permit dissaggegation of the series by type of institution. Presentation of average tuition data aggregated for all types of institutions improperly confounds trends in tuition in each of the sectors with shifts in enrollment shares among the types of institutions. Thus sharp increases in enrollment in the lower-cost, two-year colleges hold down average tuition increases in the public sector. The increase in public tuition over the years from 1967 to 1976 is thus 94.3 percent while the increases for the separate components are respectively: universities, 89.1 percent; four-year colleges, 112.7 percent; and two-year colleges, 165.3 percent.

2. A second consideration is that the "cost of college" shown is tuition plus room and board. This is the relevant total for some analytic purposes, but two-thirds to three-quarters of all students do not live on campus. Of those students not living on campus who are living at home, many pay no added living costs going to college. And since college students eat and sleep whether or not they go to college, the full room and board charges even for residential students may be more than the added cost of going to college.

Inclusion of room and board charges tends to mask the trends in tuition costs. At private institutions, the room and board can be equal to half the tuition and at public institutions it may be two or three times the tuition. Further, room and board costs do not vary greatly across institutional types and increases in these costs tend to be closer to general increases in the cost of living.

Conclusions about relative rates of cost increase differ substantially depending on whether you look at tuition or tuition plus room and board. Considering tuitions alone, tuitions in all types of institutions have gone up faster than median family incomes over the last ten years.

A comparison of the data on the middle income crunch published by the Congressional Budget Office with data appropriate to alternative analytic choices, adjusted for these two initial considerations, is shown on Table 1.

These first two points deal simply with shortcomings in the use of the available data. In addition, there are several other considerations which should be taken into account in assessing trends in tuition as compared with trends in income. Analytic choices include:

1. Selecting the appropriate income series to use in measuring the ability to pay for college. For these purposes, it is, arguably, better to use as the income series the money people actually have to cover their living costs, which is income after taxes, or disposable income.

In the last decade taxes have risen much faster than before-tax incomes resulting in a lower increase in after-tax incomes as shown on Table 2. Inflation raises incomes into progressively higher tax brackets which reduces after-tax income; and the inflation also reduces the real value of that after-tax income, both of which lead to increased financial pressures in finding the resources to pay for college. While the before-tax increase in median income for families with 18-24 year old dependents is 78.8 percent, the after-tax increase is reduced to 66.8 percent as estimated by the Congressional Budget Office.

2. A second analytic consideration is the economic or household unit used to analyze trends in ability to pay. Typically the economic unit used in the analysis of economic conditions is a family of four with one wage earner. But ever larger numbers of families are increasing their family income by putting more than one worker into the labor force. And the earnings of each of the workers is subject to employment taxes--consequently, the increase in taxes shown in Table 2 may actually be understated for many families. A rough adjustment for changes in household labor force participation rates would show, on average, increasing numbers of workers over time at each reported income level and would yield even larger increases in employment taxes. For low income workers, these employment taxes may be larger than their income taxes.

3. Another consideration is that the comparison of education cost to income is usually made on the basis of the costs for one student. But the effects of demographic shifts, in the 1950s, from a family composition of two children four years apart to three children two years apart in the 1960s, are concentrated in their effects on financing college educations in the current period. Consequently, a larger number of families are now supporting more than one child in college at the same time.

If these considerations are taken in account, the conclusion of the CBO about the ability of the middle income families to pay for their children's college education keeping up with college costs is reversed. There is, currently, a middle income crunch.

Footnotes

1/ Congressional Budget Office, Federal Aid to Postsecondary Students: Tax Allowances and Alternative Subsidies, January 1978, on page 4, "...family incomes in general have risen faster than college charges."

Congressional Budget Office, Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979, May 1978, on pages 5-8, ..."though the costs of college attendance have risen faster than the cost of living (as measured by the Consumer Price Index (CPI)), this increase in cost has been offset by an even larger increase in family incomes. As a result, student costs for both the public and private sectors of higher education have declined slightly as a proportion of family income..."

"In sum, there is no evidence to indicate that the financial burden of sending children to college has been increasing."

David Longaneker, Congressional Budget Office, "Ability to Pay for Student Costs of Higher Education Taking into Account Family Income After Taxes." July 7, 1978, 9pp. (Xeroxed)

2/ John Karr, Economics Division, Congressional Research Service, The Library of Congress "Selected Statistics Regarding Income and College Costs," June 14, 1978. 5pp.

3/ Janet S. Hansen and Lawrence E. Gladieux, Middle-Income Students: A New Target for Federal Aid? Tax Credits and Student Assistance Programs, College Entrance Examination Board, New York, June 1978, on page 5, quoting the CBO statistics and concurring "...thus incomes for middle income families were rising significantly faster than college costs."

4/ Joseph Froomkin (Director, Education Policy Research Center for Higher Education, Washington, D. C.), "Middle-Income Students and the Cost of Education," Educational Record, Volume 59, Number 3 (Summer 1978), pp. 254-267.

See also, William D. Hyde, Jr., "Student Financial Aid Proposals and the Middle Income Squeeze. Tax Credits or Expansion of Basic Grants," Education Finance Center, Education Commission of the States, Denver, Colorado, June 9, 1978. pp. 18-24.

Table 1

Data on the Middle Income Crunch
Comparison of Congressional Budget Office Data with Alternative Analytic Choices

Congressional Budget Office:	Percent Increase 1967-68 to 1976-77
Total Student Charges (Tuition and required fees, room and board)	
Public Institutions	74.2*
Private Institutions	76.7*
Median Family Income, Before Taxes	
All Families	79.1
With 18-24 year old Dependents	78.8
With 18-24 year old Dependents in College	87.3

Alternative Analytic Choices	Percent Increase 1967-68 to 1976-77	
Median Family Income After Taxes with 18-24 year old Dependents	66.8	
Total Student Charges by Type of Institution*	Tuition and Required Fees, Room and Board	Tuition
Public Institutions	76.1*	94.3
Private Institutions	84.0*	97.7
Public Institutions	76.1	94.3
Universities	72.9	89.1
Four-Year Colleges	86.0	112.7
Two-Year Colleges	103.2	165.3
Private Institutions	84.0	97.7
Universities	90.5	104.6
Four-Year Colleges	79.4	92.5
Two-Year Colleges	70.5	81.6

* Note: These percentage increases for total student charges differ because the CBO data for 1976-77 were based on preliminary figures released by NCES in Spring 1978 which were revised in the subsequent publication.

Source: Congressional Budget Office, Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979.

National Center for Education Statistics, Projections of Education Statistics to 1986-87.

Table 2

Estimates Of Selected Taxes Paid At Various Income Levels By A Median Income Family Of Four: 1967 -- 1976

Year	Median Family Income (with 18-24 year olds) 1/	Federal Income Tax ($)	(%)	Social Security ($)	(%)	State & Local Taxes ($)	(%)	Total Taxes (%)	After Tax Median Family Income 2/
1967	$ 7,923	$ 684	8.6 %	$ 290	3.7 %	$ 404	5.1 %	$ 1,378	$ 6,545
1968	8,469	830	9.8	343	4.1	457	5.4	1,630	6,839
1969	9,123	965	10.6	374	4.1	511	5.6	1,850	7,273
1970	9,624	939	9.7	374	3.9	568	5.9	1,881	7,743
1971	10,094	977	9.7	406	4.0	626	6.2	2,009	8,086
1972	10,900	1,050	9.6	468	4.3	698	6.4	2,216	8,684
1973	11,897	1,211	10.2	632	5.3	797	6.7	2,640	9,257
1974	12,561	1,319	10.5	735	5.9	867	6.9	2,921	9,640
1975	13,199	1,275	9.7	772	5.0	950	7.2	2,997	10,202
1976	14,164	1,395	9.8	829	5.9	1,020	7.2	3,244	10,920
% Change									
1967 -- 1976	78.8 %	103.9 %		185.9 %		152.5 %		135.4 %	66.8 %

1/ U.S. Congressional Budget Office. Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979. May, 1978: p. 8.

Reprinted from: A presentation handout June 14, 1978, by John Karr, Economics Division, Congressional Budget Office.

Table 3

Congressional Budget Office

FAMILY INCOME AND STUDENT CHARGES, CALENDAR YEARS 1967-1976

Year	Median Family Income a/ All Families (1)	Median Family Income a/ With 18-24 yr. Dependents (2)	Median Family Income a/ With 18-24 yr. Dep. in College (3)	Total Student Charges Public (4)	Total Student Charges Private (5)	Student Charges as a Percent of Income of Families with 18-24 yr. Dependents Public (4)-(2)	Student Charges as a Percent of Income of Families with 18-24 yr. Dependents Private (5)-(2)	CPI
1967	$ 6,811	$ 7,923	$ 9,816	$1,063	$2,205	13.4	27.8	100.0
1968	7,189	8,469	10,452	1,117	2,321	13.2	27.4	104.2
1969	7,770	9,123	11,295	1,204	2,531	13.2	27.7	109.8
1970	8,268	9,624	12,063	1,288	2,739	13.4	28.5	116.3
1971	8,681	10,095	12,727	1,357	2,917	13.4	28.9	121.3
1972	9,276	10,900	13,392	1,458	3,038	13.4	27.9	125.3
1973	10,273	11,897	14,679	1,517	3,164	12.8	26.6	133.1
1974	11,025	12,561	16,005	1,617	3,386	12.9	27.0	147.7
1975	11,505	13,199	16,784	1,748	3,667	13.2	27.8	161.2
1976	12,199	14,164	18,384	1,854	3,896	13.1	27.5	170.5
Percent Change 1967-1976	+79.1	+78.8	+87.3	+74.2	+76.7	-2.2	-1.1	70.5

SOURCE: U.S. Bureau of the Census, Current Population Reports and National Center for Education Statistics data; U.S. Department of Commerce, Survey of Current Business.

a/ Family incomes are those reported in the Bureau of the Census, October Current Population Survey, in which detailed questions about education are asked. The traditional and more comprehensive reporting of incomes is done in March of each year. The Bureau of the Census reports that, for the above period, October median family incomes ranged from 82 to 86 percent of the median family incomes reported in March.

A census family is two or more persons related by blood, marriage, or adoption, and residing together. All such persons are considered members of the same family. Columns (2) and (3) are incomes of primary families. A primary family includes a head of the household (family designated) as one of its members. Excluded from the sample of primary families here are those in which the 18-24-year-old dependent is either the designated head, the wife, or married. Only those in which the 18-24-year-old dependent is attending college full time are included in Column (3).

Source: Congressional Budget Office, Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979.

Table 4

TUITION AND REQUIRED FEES

	Universities		Four-Year Colleges		Two-Year Colleges		All Institutions	
	Public	Private	Public	Private	Public	Private	Public	Private
1963-64	281	1,216	215	935	97	642	234	1,012
1964-65	298	1,297	224	1,023	99	702	243	1,088
1965-66	327	1,369	241	1,086	109	768	257	1,154
1966-67	360	1,456	259	1,162	121	845	275	1,233
1967-68	366	1,534	268	1,237	144	892	283	1,297
1968-69	377	1,638	281	1,335	170	956	295	1,383
1969-70	427	1,809	306	1,468	178	1,034	323	1,533
1970-71	478	1,980	332	1,603	187	1,109	351	1,684
1971-72	526	2,133	354	1,721	192	1,172	376	1,820
1972-73	566	2,226	455	1,846	233	1,221	407	1,898
1973-74	581	2,375	463	1,925	274	1,303	438	1,989
1974-75	597	2,534	473	2,035	316	1,341	470	2,131
1975-76	646	2,798	501	2,185	341	1,479	495	2,334
1976-77	692	3,139	570	2,381	382	1,620	550	2,564
1977-78	741	3,403	598	2,531	407	1,758	575	2,767
Percent Increase:								
1967-68 to 1976-77	89.1	104.6	112.7	92.5	165.3	81.6	94.3	97.7

Source: Data from the National Center for Education Statistics, Projections of Education Statistics 1986-87, Table 36, pp. 112-113, GPO, 1978.

Table 5

Total Tuition and Required Fees, Room and Board

	Universities		Four-Year Colleges		Two-Year Colleges		All Institutions	
	Public	Private	Public	Private	Public	Private	Public	Private
1963-64	1,026	2,105	846	1,700	630	1,313	926	1,815
1964-65	1,051	2,202	867	1,810	638	1,455	950	1,907
1965-66	1,105	2,316	904	1,899	670	1,557	983	2,005
1966-67	1,171	2,456	947	2,007	710	1,679	1,026	2,124
1967-68	1,199	2,545	997	2,104	789	1,762	1,064	2,205
1968-69	1,245	2,673	1,063	2,237	883	1,876	1,117	2,321
1969-70	1,362	2,420	1,135	2,420	951	1,993	1,203	2,530
1970-71	1,477	3,163	1,206	2,599	1,018	2,103	1,287	2,738
1971-72	1,579	3,375	1,263	2,748	1,073	2,186	1,357	2,917
1972-73	1,668	3,512	1,460	2,934	1,197	2,273	1,458	3,038
1973-74	1,707	3,717	1,506	3,040	1,274	2,410	1,517	3,164
1974-75	1,797	3,962	1,579	3,227	1,381	2,504	1,617	3,386
1975-76	1,937	4,344	1,684	3,474	1,482	2,770	1,725	3,691
1976-77	2,073	4,849	1,854	3,775	1,603	3,004	1,874	4,058
Percent Increase 1967-68 to 1976-77	72.9	90.5	86.0	79.4	103.2	70.5	76.1	84.0

Source: Data from the National Center for Education Statistics, Projections of Education Statistics 1986-87, Table 36, pp. 112-113, GPO, 1978.